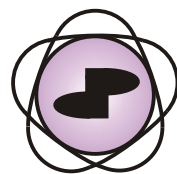


PEN-O-TRATORTM SIZES

Item	Pipe Size	Hole Size	O.D.Size	Weight range LB/FT
2.7/8" x 3.3/4"	2 7/8"	3 3/4"	3.65"	9.8
2.7/8" x 6"	2 7/8"	6"	5.7"	9.8
4" x 5.7/8"	4"	5 7/8"	5.687"	13.2 - 16.5
4.1/2" x 5.7/8"	4 1/2"	5 7/8"	5.687"	10.5 - 13.6
4.1/2" x 6"	4 1/2"	6"	5.8"	10.5 - 13.6
5" x 5.7/8"	5"	5 7/8"	5.687"	18 - 23.2
5" x 6"	5"	6"	5.8"	18 - 23.2
5" x 8.1/2"	5"	8 1/2"	8.3"	18 - 23.2
5.1/2" x 8.1/2"	5 1/2"	8 1/2"	8.3"	17 - 26
6.5/8" x 8.1/2"	6 5/8"	8 1/2"	8.3"	24 - 35
7" x 8.3/8"	7"	8 3/8"	8.2"	23 - 29
7" x 8.1/2"	7"	8 1/2"	8.3"	23 - 29
7" x 8.1/2"	7"	8 1/2"	8.3"	32 - 38
7.5/8" x 8.1/2"	7 5/8"	8 1/2"	8.3"	33.7 - 42.8
9.5/8" x 12.1/4"	9 5/8"	12 1/4"	12"	43.5 - 68
9.7/8" x 12.1/4"	9 7/8"	12 1/4"	12"	62.8
13.3/8" x 17.1/2"	13 3/8"	17 1/2"	17"	54.5 - 103.1

Other sizes and special applications available on request:
For your nearest Distributor/Agent and Stockist, please contact:



Downhole Products plc

Badentoy Road, Badentoy Park

Portlethen, Aberdeen AB12 4YA Scotland UK

Tel No: 44 (0) 1224 784411 Fax No: 44 (0) 1224 785222

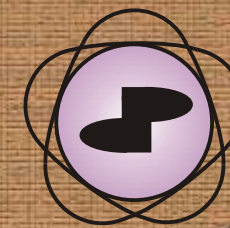
E-Mail: mail@downhole.co.uk

website: www.downhole.co.uk



Certificate Number : 7175

Downhole Products plc



REAM TO THE EXTREME

THE ULTIMATE PATHFINDING GUIDE SHOE

PEN-O-TRATORTM

Pen-o-tratorTM
Featuring "Reamer Technology"TM

Patent Pending

PEN-O-TRATOR™

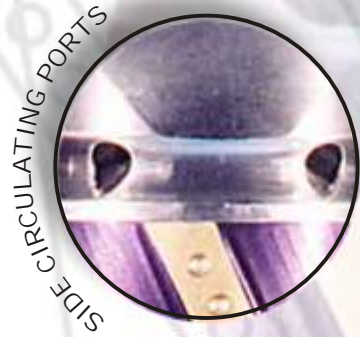
- **NEW WELL-BORE SEEKING GUIDE NOSE NEGOTIATES TROUBLESOME FORMATIONS**
Equipped with a profiled nose that has the ability to freely orientate off obstructions



- **ANTI AGGRESSIVE LEFT HAND BLADES MINIMISE TORQUE**
Non aggressive reaming action with passive angled left-hand blades, eliminates stalling and minimises torque build up on thread connections

- **NEW DYNAMICALLY POSITIONED CIRCULATING PORTS FOR EFFECTIVE HOLE CLEANING**

A single diverging circulating port on the nose is utilised to maximise and maintain circulation. Recessed up-jet angled ports assist cuttings removal and hole cleaning and gives 360 degree cement placement



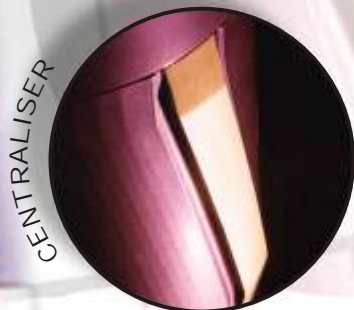
- **RUN WITH TORQUE AND DRAG REDUCING ZINC ALLOY SPIR-O-LIZERS TO OPTIMISE PERFORMANCE**
The ultra low friction Spir-o-lizer will minimise drag and maximise the rotational ability of the Pen-o-trator and tubular string that follows

- **NEW INNOVATIVE SELF CLEANING CUTTING STRUCTURE**
Superior innovative tapered cutting structure of Tungsten Carbide Button Inserts. Solids will not stick and there are no sharp extrusions to damage wellhead seals and tubulars



- **NEW SLICK BODY ELIMINATES SOLIDS BUILD UP**
The slick body design has eliminated potential areas which can trap solids and cuttings

- **NEW INTEGRAL LOW TORQUE CENTRALISER**
A free rotating centraliser bearing supports the tool and reduces torque and drag during running operations



- **EASY DRILL-THRU CAPABILITY – PDC, OR ROLLER CONE BIT**
The high strength profiled alloy nose will anchor even in uncured cement to facilitate ease of drill out

- **PENETRATES BY REAMING PAST OBSTRUCTIONS WITH OR WITHOUT ROTATION**

Due to the unique design of the tool Rotation is not necessary. Equipped with a reaming structure that re-establishes the hole size to the gauge of the tool, allowing easy passage of all casing, liner and screen assemblies

- **INTEGRAL FLOAT VALVE - OPTIONAL**
Positive seal PDC drillable spring operated non-return poppet valve. The phenolic material valve is Designed to withstand high temperature, large volumes of fluids pumped at high flow rates. Suitable for both high and low pressure conditions

- **INTERCHANGEABLE COMPONENT TECHNOLOGY**
This tool can be readily factory assembled to suit variable configurations and dimensions

